

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1-20 are now present in this application. Claims 1 and 12 are independent. Claims 1, 5, 6 and 12 have been amended. Claims 19 and 20 have been added.

Reconsideration of this application, as amended, is respectfully requested.

Rejection Under 35 U.S.C. § 103

Claims 1, 2 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,373,540B1 to Munakata, in view of U.S. Patent No. 6,300,929B1 to Hisatake et al. (Hisatake). This rejection is respectfully traversed.

The Examiner has stated that it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal display device as Munakata disclosed with a second substrate with an upside down LC cell formed adjacent a backlight device to prevent the display device from declining in display contrast due to ambient light leakage currents in the open-air use. The Applicants respectfully disagree.

At the outset, the Applicant notes that independent claim 1 recites a combination of elements including a backlight device. By contrast, as admitted by the Examiner, Munakata does not recite a backlight device.

The reason for this is clear. That is, the device of Munakata is a reflective liquid crystal display device. As such, adding a backlight device to the device of Munakata would add nothing to the operation thereof, and therefore adding the backlight device of Hisatake to the reflective liquid crystal display device of Munakata would be an unnecessary waste of time and expense.

Further, the reflective liquid crystal display device of Munakata is comprised of many solid or opaque layers such as a light reflection layer 9 comprised of a metal layer 9b and a resin layer 9b, and a counter electrode 6 composed of a polyimide film (Munakata, Col.4, lines 38-40). In other words, the reflective liquid crystal display device of Munakata (not being transmissive) has layers that prevent the passage of light therethrough. Adding a backlight device thereto would actually interfere with the operation of the reflective liquid crystal display device.

However, the Examiner has proposed substituting the entire upside down second substrate (including the switching element and backlight device) of Hisatake, into the device of Munakata in order to produce the Applicants' claimed invention. There are many reasons why such a substitution would not work. As one example of a possible combination, the lower halves of the device

shown in Figs. 2C or 2D of Munakata could be removed. This would allow the black matrix BM of Munakata to remain in place. To replace the removed portion, the portion of Fig. 4 of Hisatake including layers 14-39 could be attached as a substitute for the removed portion of Munakata. Clearly, this would result in a device with multiple pixel electrodes, color filters etc, all conflicting with one another, and ultimately resulting in a device that would not work. While the device of Hisatake is transmissive/reflective, the portion including upside down substrate and backlight would still have to be joined to the remnants of a device that retains characteristics of a reflective LCD device (even absent the removed portions). Such a combination would not work.

In another sense, those skilled in the art recognize that (while not so named) the device as claimed by the Applicants in claim 1 is a transmissive liquid crystal display device, while the device of Munakata and the device of Hisatake are reflective and transmissive/reflective devices respectively. It is not necessary to name the device as transmissive in that it would run counter to claims depending on claim 1 which combine with claim 1 to result in at least a transmissive/reflective liquid crystal display device. However, claim 1, as recited, is not so limiting. Therefore, even if various combinations of Munakata and Hisatake were made, the result would still not be a transmissive liquid crystal display device. Many elements in these devices would have to be gutted and

tossed aside, and the elements in both devices would have to be rearranged in order to arrive at the Applicants' claimed invention.

Only through improper hindsight would one of ordinary skill in the art find a motivation to combine the cited references. However, it is impermissible to use the Applicant's own disclosure as a teaching or motivation to combine the prior art references. Only Applicants' specification teaches any motivation for the claimed arrangement.

For the reasons stated above, neither Munakata, nor Hisatake teaches or suggests the features of independent claim 1.

Independent claim 12, had been amended to recite a combination of steps in a method of manufacturing a liquid crystal display device which comprises an array of thin film transistors and an array of pixel electrodes *and a backlight device, said method including positioning said backlight device beneath said second substrate such that said second substrate is located between said backlight device and said first substrate*

Here too, it would be useless to include the substrate and backlight of Hisatake in the reflective liquid crystal display device of Munakata. Further, such a combination would not result in a workable device. Further still, such a combination would not produce the transmissive liquid crystal display devices of independent claims 1 and 12. Reconsideration and withdrawal of this art grounds of rejection is respectfully requested.

Claim 2 depends on claim 1. Since neither Munakata, nor Hisatake discloses or suggests the above-recited features of independent claims 1 and 12, Munakata, in view of Hisatake, cannot render claims 1-2 and 12 obvious to one of ordinary skill in the art. Reconsideration and withdrawal of this art grounds of rejection are respectfully requested.

Claims 3-8 and 13-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Munakata in view Hisatake as applied to claims 1, 2 and 12 above, in view of U.S. Patent No. 5,847,781A to Ono et al. (Ono). This rejection is respectfully traversed.

Munakata and Hisatake, argued above with respect to independent claims 1 and 12, fail to disclose or suggest the combinations of elements recited in independent claims 1 and 12. Ono cannot fill this vacancy.

Claims 3-8 and 13-15 depend, either directly or indirectly on independent claims 1 and 12. Since neither Munakata, nor Hisatake, nor Ono discloses or suggests the above-recited features of independent claims 1 and 12, Munakata, in view of Hisatake, and further in view of Ono, cannot render claims 3-8 and 13-15 obvious to one of ordinary skill in the art. Reconsideration and withdrawal of this art grounds of rejection are respectfully requested.

Claims 19 & 20

Claims 19 and 20 have been added for the Examiner's consideration. These claims depend either directly or indirectly from claims 1 and 12 respectively, and therefore are believed to be allowable based on their dependence from independent claims 1 and 12, which are believed to be allowable. Allowance thereof is respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Percy L. Square, Registration No. 51,084, at (703) 205-8034, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

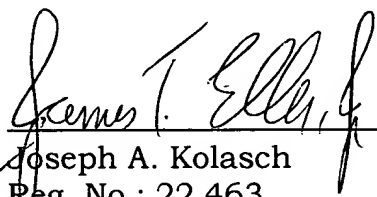
Amendment filed June 24, 2004
Response to Office Action of March 24, 2004

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By:  #39,538

Joseph A. Kolasch
Reg. No.: 22,463
P.O. Box 747
Falls Church, Virginia 22040-0747
Telephone: (703) 205-8000


JAK/PLS:jls